

Zika Virus Emerges in the Americas

Transmission of Zika virus, a mosquito-borne flavivirus (medically important members of the genus *Flavivirus* in the Americas also include West Nile virus, dengue virus, and yellow fever virus), has become established in Mexico and several countries in South and Central America, including Brazil, Chile (Easter Island), Colombia, El Salvador, Guatemala, Paraguay, Suriname, and Venezuela. The virus is transmitted by *Aedes* mosquitoes, including *Ae. aegypti* and potentially *Ae. albopictus*, both of which are found in Texas. Similar to dengue and chikungunya virus, Zika virus is transmitted in a human-mosquito-human cycle. Transfusion-associated transmission, perinatal transmission, and sexual transmission may occur in rare instances.

Clinical signs and symptoms of Zika virus infection are non-specific and commonly include fever, maculopapular rash, arthralgia, conjunctivitis, myalgia, malaise, headache, retro-orbital pain, and vomiting. Infection is asymptomatic in up to 80% of cases and clinical illness, when it occurs, is typically mild and lasts for several days to a week; however, recent experience in Brazil suggests that Zika virus infection may cause neurological syndromes, including Guillain-Barré syndrome, and microcephaly in newborns. Severe disease and fatality are uncommon.

Preliminary diagnosis should be based upon the patient's clinical features, history of exposure to mosquitoes or outdoor activities in mosquito-infested areas, and travel to endemic countries. Laboratory diagnosis may be made using polymerase chain reaction (PCR) testing on serum or plasma within the first 7 days of clinical illness to identify viral nucleic acid and serological tests may be used after the first 5 days of illness to detect IgM antibodies. Due to potential cross-reaction with other flaviviruses (e.g. West Nile and dengue viruses) on serological tests, and the potential for co-circulation of these viruses in many areas, a positive serological test should be followed by plaque reduction neutralization testing (PRNT) to differentiate between infections with these related viruses. Currently there are no commercial laboratories with the capability to test for Zika virus infection, so testing must be done at the Centers for Disease Control and Prevention (CDC). Samples going to CDC should be routed through the Texas Department of State Health Services (DSHS) laboratory.

Treatment for Zika virus infection is supportive, including rest, antipyretics, and analgesics. Dengue should be ruled out prior to the use of non-steroidal anti-inflammatory drugs (NSAIDs) to minimize the risk for hemorrhage that may occur with dengue virus infection. To prevent the establishment of local transmission of Zika virus in Texas, DSHS and CDC recommend that patients known or suspected of having Zika virus infection avoid sustaining mosquito bites during the first 7 days following illness onset. Patients are also urged to eliminate mosquito breeding habitats around their homes.

Arbovirus infections, including those caused by Zika virus, are reportable to DSHS.